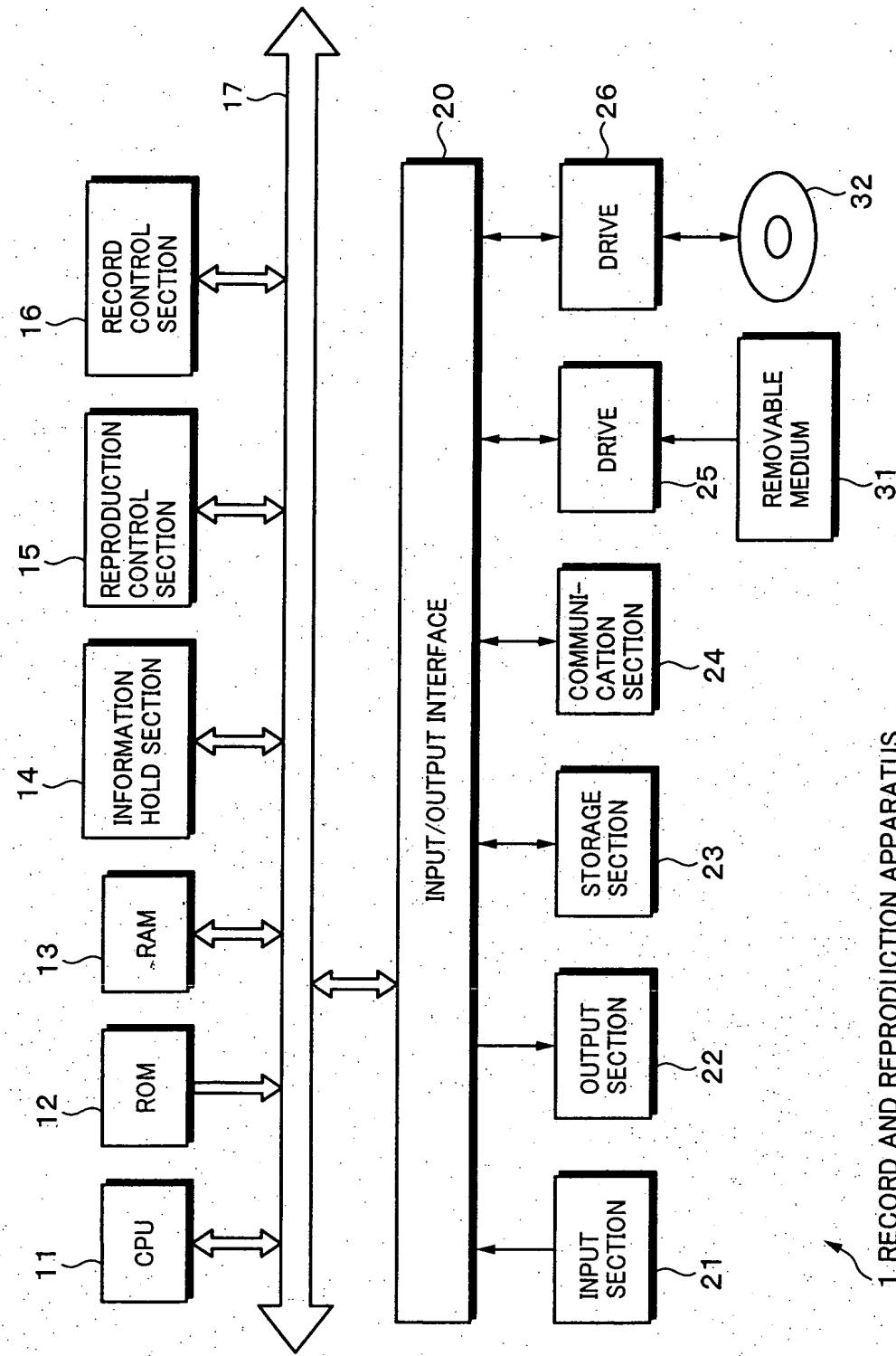


**Fig. 1**



**1. RECORD AND REPRODUCTION APPARATUS**

# *Fig. 2*

14

INFORMATION HOLD SECTION

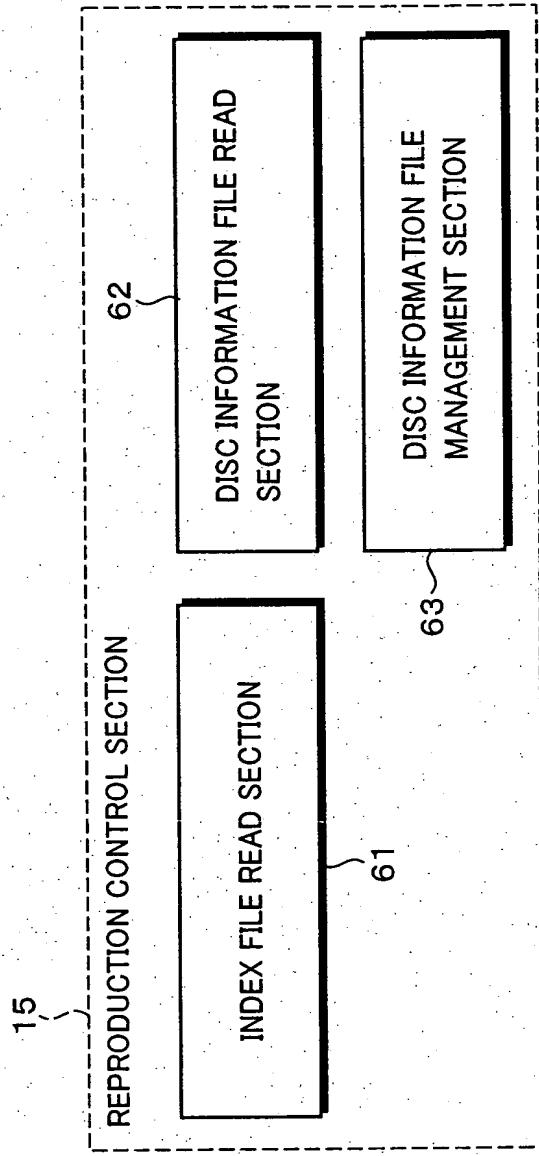
INDEX FILE HOLD SECTION

51

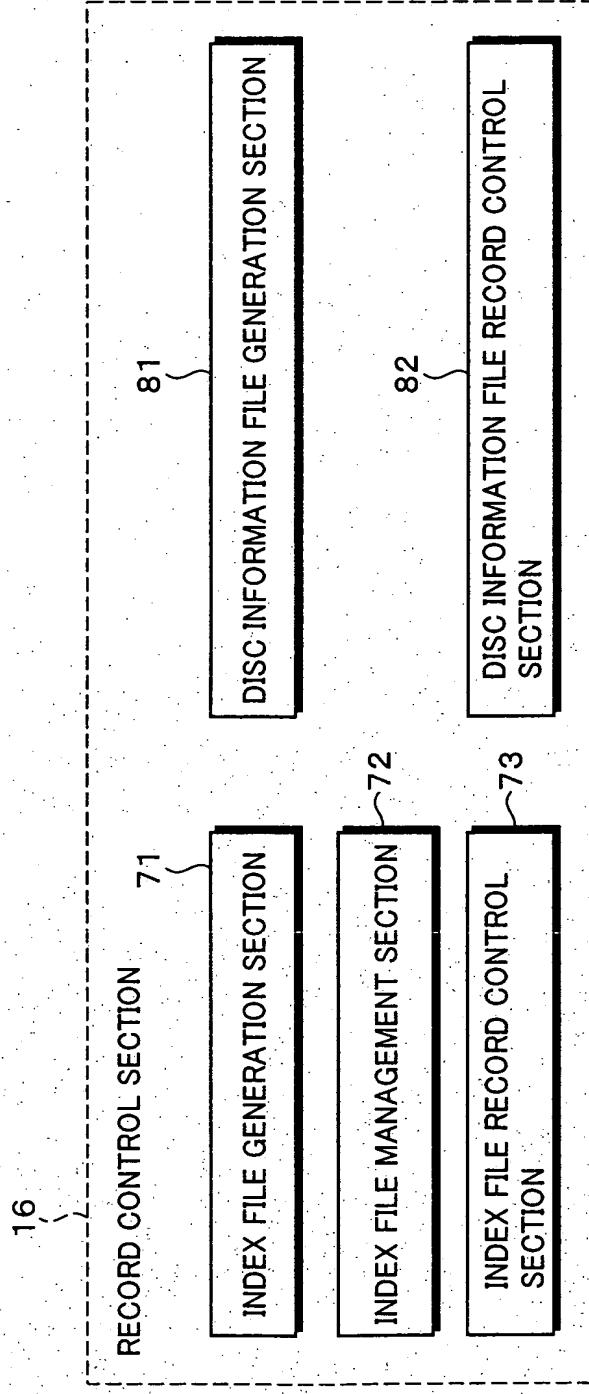
DISC INFORMATION FILE HOLD  
SECTION

52

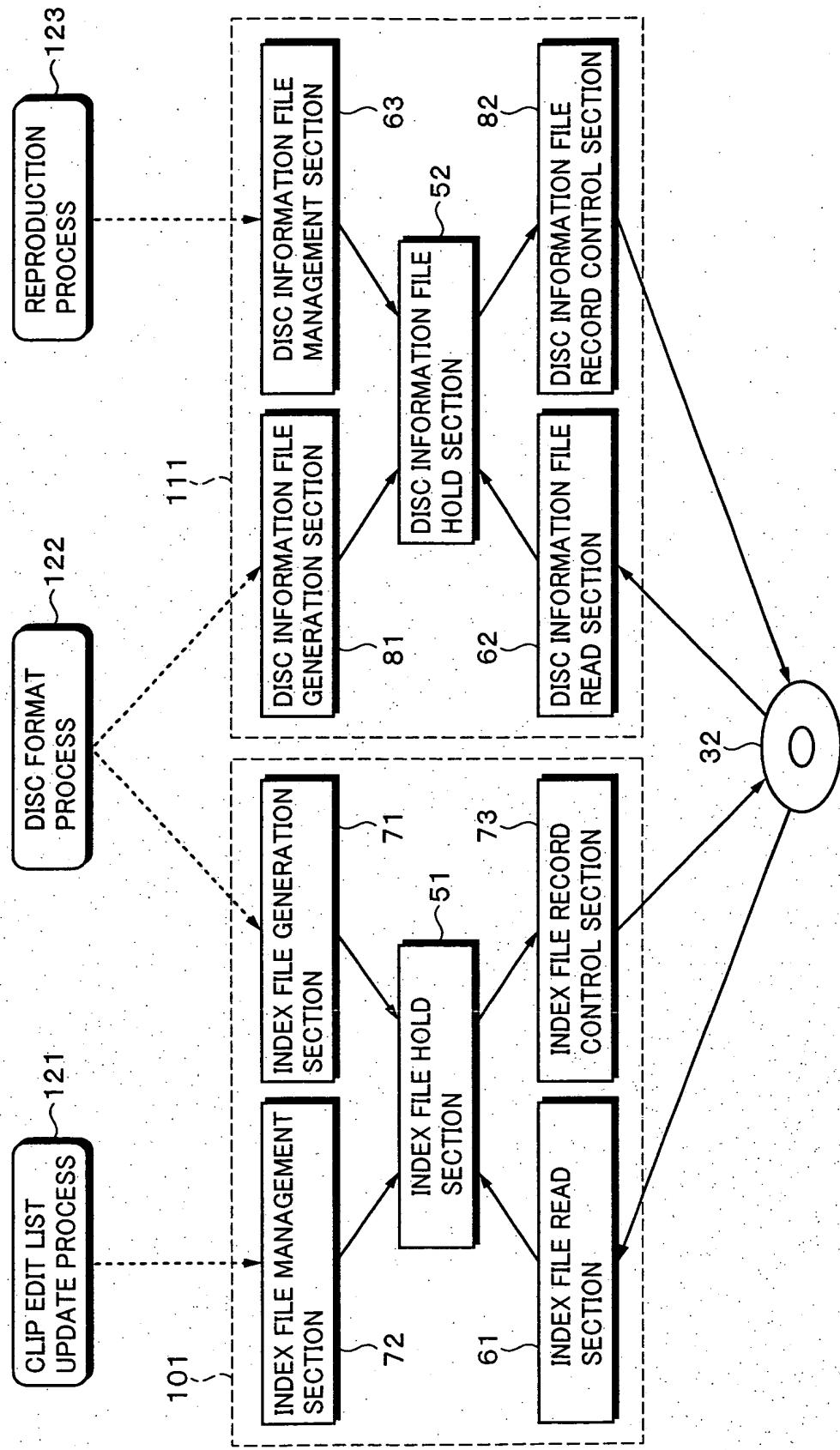
**Fig. 3**



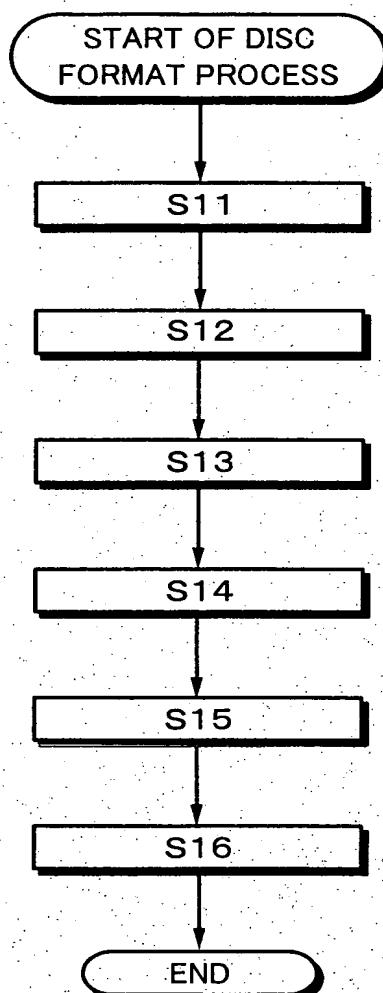
**Fig. 4**



**Fig. 5**



*Fig. 6*



# Fig. 7

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <IndexFile xmlns="urn:schemas-professionalDisc:index"
3   indexId="0123456789ABCDEF0123456789ABCDEF">
4   <clipTable path="/PROAV/CLPR/">
5     <!-- Normal Clip -->
6       <clip id="C0001" umid="0012130000000000001044444484EEE00E0188E130B"
7         file="C0001C01.SMI" fps="59.94i" dur="12001" ch="4" aspectRatio="4:3">
8           <video umid="001213000000000000104444484EEE00E0188E130B"
9             file="C0001V01.MXF" type="DV25_411" header="65536"/>
10          <audio umid="001213000000000000104444484EEE00E0188E130B"
11            file="C0001A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
12          <audio umid="001213000000000000104444484EEE00E0188E130B"
13            file="C0001A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
14          <audio umid="001213000000000000104444484EEE00E0188E130B"
15            file="C0001A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
16          <audio umid="001213000000000000104444484EEE00E0188E130B"
17            file="C0001A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
18          <subStream umid="001213000000000000104444484EEE00E0188E130B"
19            file="C0001M01.MXF" type="PD-SubStream" header="65536"/>
20            <meta file="C0001M01.XML" type="PD-Meta"/>
21            <rtrmeta file="C0001R01.BIM" type="key:0123456789ABCDEF"/>
22          </clip>
23        <!-- Partial Deleted Clip -->
24        <clip id="C0002" umid="0012130000000000001044444484EEE00E0188E130B"
25          file="C0002C01.SMI" fps="59.94i" dur="4000" ch="4" aspectRatio="4:3">
26            <video umid="0012130000000000001044444484EEE00E0188E130B"
27              file="C0002V01.MXF" type="IMX50" header="80000"/>
28            <audio umid="0012130000000000001044444484EEE00E0188E130B"
29

```

# Fig. 8

```

1   file="C0002A01.MXF" type="LPCM16" header="100000" trackDst="CH1"/>
2   <audio umid="0D1213000000000000104444484EEE00E0188E130B"
3     file="C0002A02.MXF" type="LPCM16" header="100000" trackDst="CH2"/>
4     <audio umid="0D1213000000000000104444484EEE00E0188E130B"
5       file="C0002A03.MXF" type="LPCM16" header="100000" trackDst="CH3"/>
6       <audio umid="0D1213000000000000104444484EEE00E0188E130B"
7         file="C0002A04.MXF" type="LPCM16" header="100000" trackDst="CH4"/>
8         <subStream umid="0D1213000000000000104444484EEE00E0188E130B"
9           file="C0002S01.MXF" type="PD-SubStream" header="90000"
10          clipBegin="8"/>
11          <meta file="C0002M01.XML" type="PD-Meta"/>
12          <rtmeta file="C0002R01.BIM" type="std2k" header="70000"/>
13        </clip>
14      <!-- Referred Clip -->
15      <clip id="C0003" umid="0D1213000000000000104444484EEE00E0188E130B"
16        file="C0003C01.SMI" fps="59.94i" dur="100000" ch="4" aspectRatio="4:3"
17        referer="E0001 E0002 E0003">
18        <video umid="0D1213000000000000104444484EEE00E0188E130B"
19          file="C0003V01.MXF" type="IMX50" header="65536"/>
20        <audio umid="0D1213000000000000104444484EEE00E0188E130B"
21          file="C0003A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
22        <audio umid="0D1213000000000000104444484EEE00E0188E130B"
23          file="C0003A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
24        <audio umid="0D1213000000000000104444484EEE00E0188E130B"
25          file="C0003A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
26        <audio umid="0D1213000000000000104444484EEE00E0188E130B"
27          file="C0003A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
28        <subStream umid="0D1213000000000000104444484EEE00E0188E130B"
29          file="C0003S01.MXF" type="PD-SubStream" header="65536"/>

```

# Fig. 9

```

1 <meta file="C0003M01.XML" type="PD-Meta"/>
2 <rtmeta file="C0003R01.BIM" type="std2K" header="65536"/>
3 </clip>
4 <!-- Long GOP -->
5 <clip id="C0004" umid="0D1213000000000000104444484EEEE00E0188E130B"
6 file="C0004C01.SMI" fps="59.94i" dur="12001" ch="4" aspectRatio="16:9"
7 referer="E0004">
8 <video umid="0D1213000000000000104444484EEEE00E0188E130B"
9 file="C0004V01.MXF" type="MP@HL" header="65536"/>
10 <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
11 file="C0004A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
12 <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
13 file="C0004A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
14 <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
15 file="C0004A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
16 <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
17 file="C0004A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
18 <subStream umid="0D1213000000000000104444484EEEE00E0188E130B"
19 file="C0004S01.MXF" type="PD-SubStream" header="65536"/>
20 <meta file="C0004M01.XML" type="PD-Meta"/>
21 <meta file="C0004I01.XML" type="PD-PP"/>
22 <rtmeta file="C0004R01.BIM" type="std2K" header="65536"/>
23 </clip>
24 </clipTable>
25 <editListTable path="/PROAV/EDTR/">
26 <editList id="E0001" umid="0D1213000000000000104444484EEEE00E0188E130B"
27 file="E0001E01.SMI" dur="500" fps="59.94i" ch="4" aspectRatio="4:3">
28 <meta file="E0001M01.XML" type="PD-Meta"/>

```

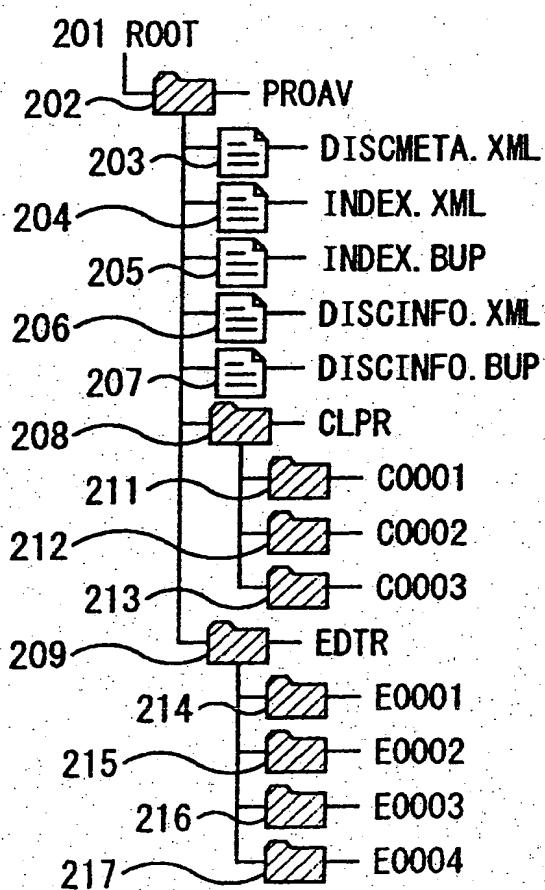
# Fig. 10

```
1 </editList>
2 <editList id="E0002" umiId="0D121300000000000104444484EEE00E0188E130B"
3   file="E0002E01.SMI" dur="500" fps="59.94i" ch="4" aspectRatio="4:3">
4     <meta file="E0002M01.XML" type="PD-Meta"/>
5   </editList>
6   <editList id="E0003" umiId="0D121300000000000104444484EEE00E0188E130B"
7     file="E0003E01.SMI" dur="500" fps="59.94i" ch="4" aspectRatio="4:3">
8     <meta file="E0003M01.XML" type="PD-Meta"/>
9   </editList>
10  <editList id="E0004" umiId="0D121300000000000104444484EEE00E0188E130B"
11    file="E0003E01.SMI" dur="500" fps="59.94i" ch="4" aspectRatio="16:9">
12    <meta file="E0003M01.XML" type="PD-Meta"/>
13    <meta file="E0003I01.XML" type="PD-PP"/>
14  </editList>
15 </editListTable>
16 </indexFile>
```

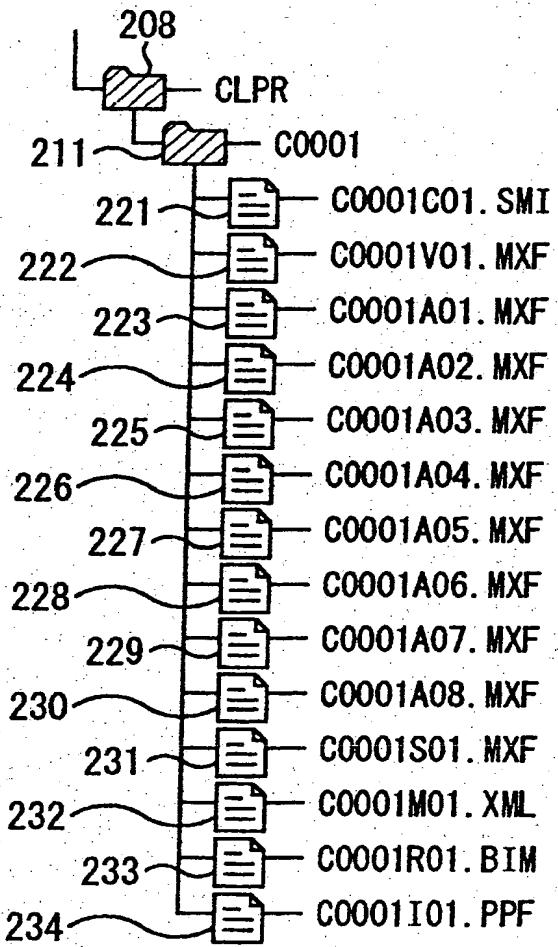
**Fig. 11**

```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <discinfo xmlns="urn:schemas-professionalDisc:discinfo">
3      <history>
4          <clip id="C0003" ftc="smpte-30-drop=00:30:12:23" />
5          <editlist id="E0001" ftc="smpte-30-drop=00:00:00:15" />
6          <tape id="C0003" ftc="smpte-30-drop=00:02:23:12" />
7          <editlist id="E0004" ftc="smpte-30-drop=00:00:10:02" />
8          <clip id="C0002" ftc="smpte-30-drop=00:01:02:03" />
9          <clip id="C0004" ftc="smpte-30-drop=00:05:43:21" />
10     </history>
11  </discinfo>
```

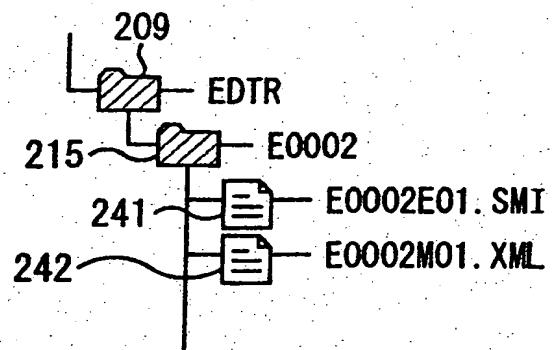
*Fig. 12*



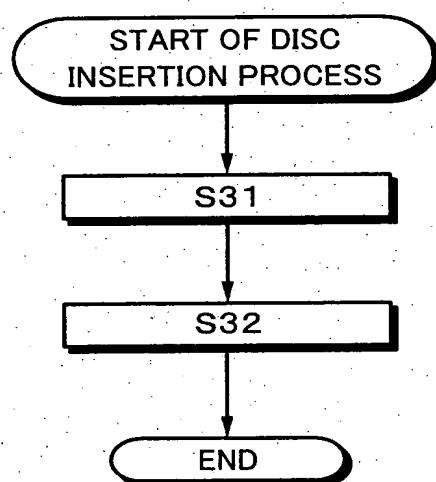
**Fig. 13**



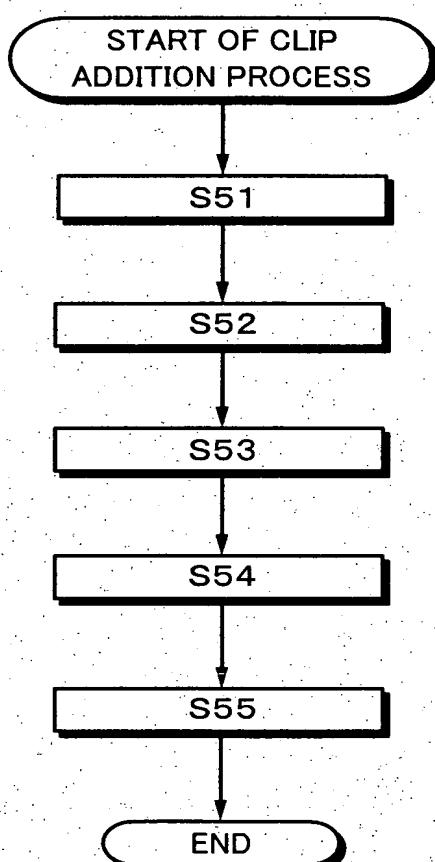
*Fig. 14*



**Fig. 15**



**Fig. 16**



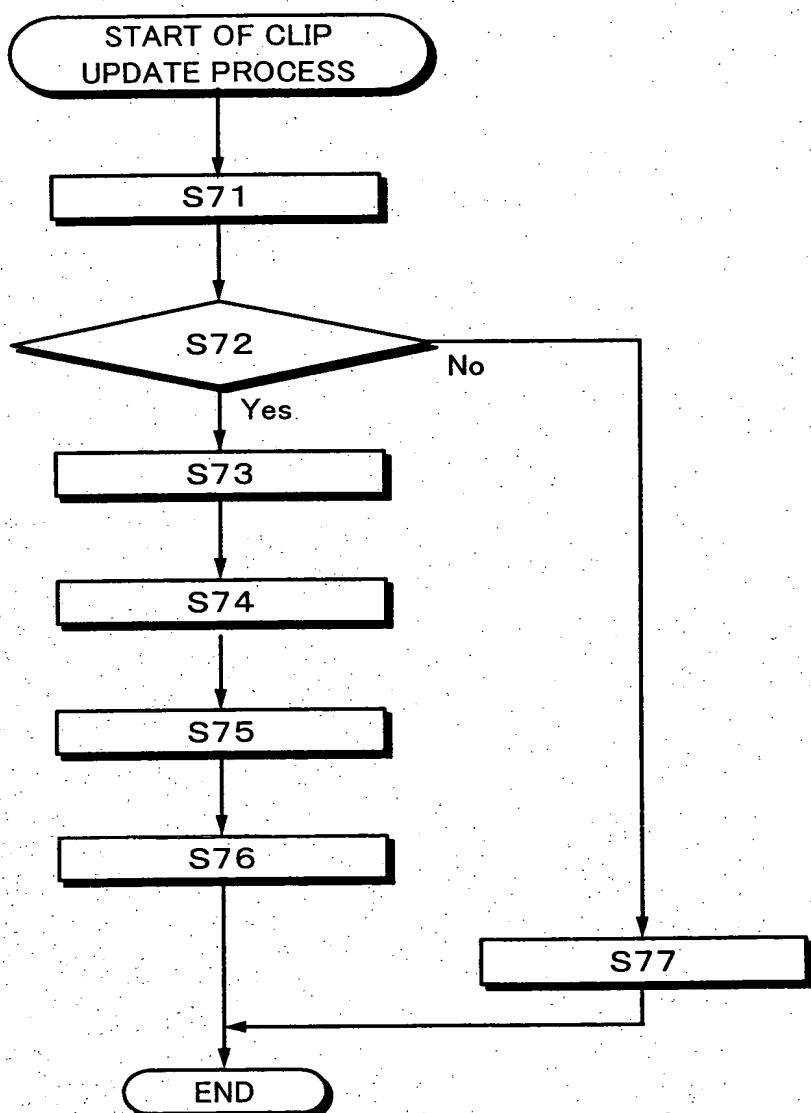
**Fig. 17**

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <smil xmlns="urn:schemas-professionalDisc:edl:clipInfo">
3   <head>
4     <metadata type="Meta">
5       <!-- non real time meta -->
6       <NRMeta xmlns="urn:schemas:prodDisc:nrt">
7         <ref src="C0001M01.XML"/>
8       </NRMeta>
9     </metadata>
10    </head>
11    <body>
12      <par>
13        <switch>
14          <!-- main stream -->
15          <par systemComponent="IMX50">
16            <video>
17              src="urn:smpte:umid:060A2B3401010501010D121300000000123456789ABCDEF0123456789ABCDEF"
18              type="IMX50"/>
19            <audio>
20              src="urn:smpte:umid:060A2B3401010501010D121300000000123456789ABCDEF0123456789ABCDEF0"
21              type="PCM16" trackDst="CH1"/>
22            <audio>
23              src="urn:smpte:umid:060A2B3401010501010D12130000000023456789ABCDEF0123456789ABCDEF01"
24              type="PCM16" trackDst="CH2"/>
25            <audio>
26              src="urn:smpte:umid:060A2B3401010501010D1213000000003456789ABCDEF0123456789ABCDEF012"
27              type="PCM16" trackDst="CH3"/>
28            <audio>
29              src="urn:smpte:umid:060A2B3401010501010D12130000000456789ABCDEF0123456789ABCDEF0123"
```

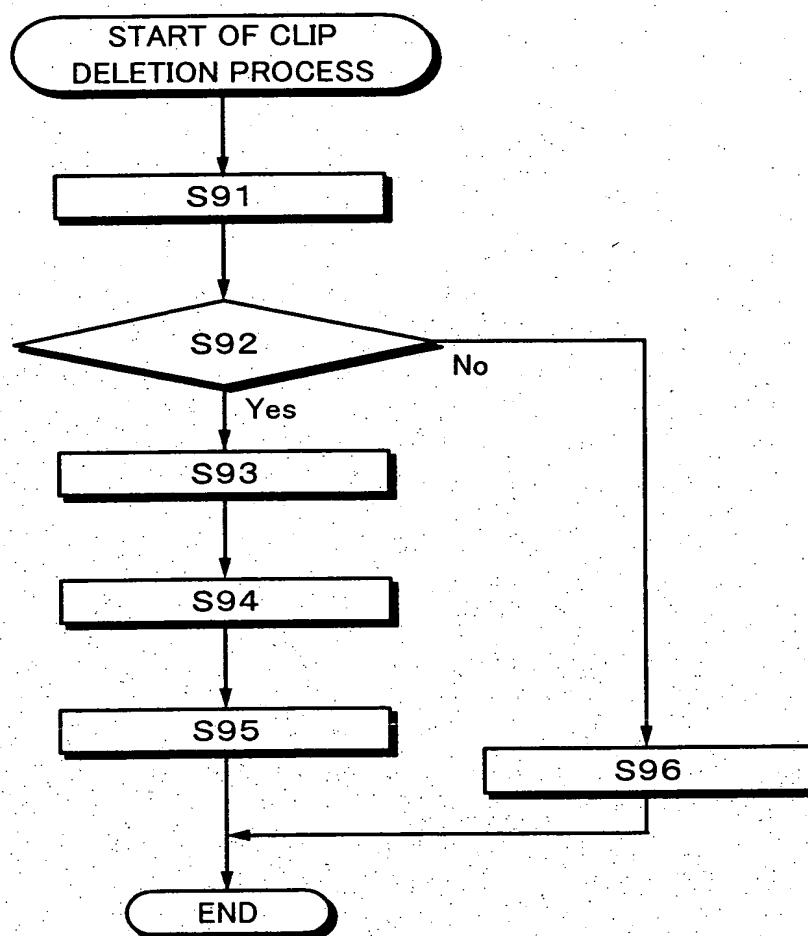
## Fig. 18

```
1   type="LPCM16" trackDst="CH4"/>
2   <audio 0
3     src="urn:smpTE:umid:060A2B340101010501010D121300000056789ABCDEF0123456789ABCDEF01234"
4     type="LPCM16" trackDst="CH5"/>
5   <audio 0
6     src="urn:smpTE:umid:060A2B340101010501010D12130000006789ABCDEF0123456789ABCDEF012345"
7     type="LPCM16" trackDst="CH6"/>
8   <audio 0
9     src="urn:smpTE:umid:060A2B340101010501010D1213000000789ABCDEF0123456789ABCDEF0123456"
10    type="LPCM16" trackDst="CH7"/>
11   <audio 0
12     src="urn:smpTE:umid:060A2B340101010501010D121300000089ABCDEF0123456789ABCDEF01234567"
13     type="LPCM16" trackDst="CH8"/>
14   </par>
15   <!-- sub stream -->
16   <ref
17     src="urn:smpTE:umid:060A2B340101010501010D12130000009ABCDEF0123456789ABCDEF012345678"
18     type="SubStream" systemComponent="SubStream" />
19   </switch>
20   <!-- real time meta -->
21   <metastream src="C0001R01.BIM" type="required2k" />
22   </par>
23   </body>
24 </smil>
```

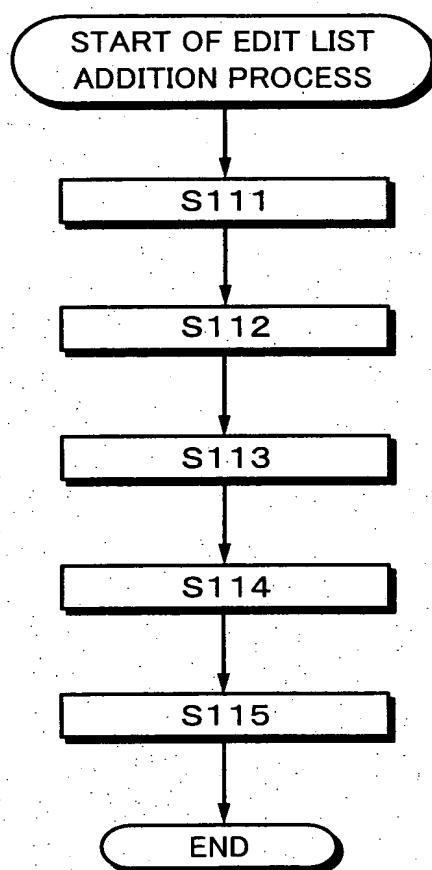
*Fig. 19*



*Fig. 20*



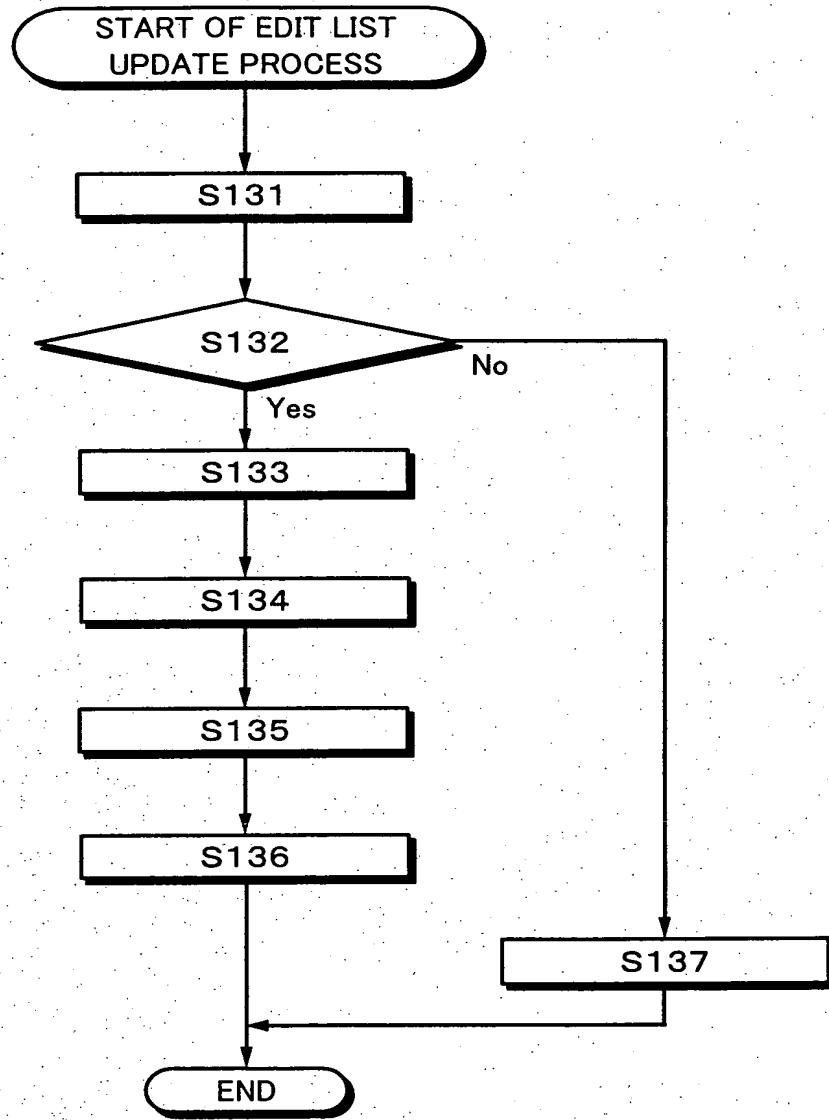
*Fig. 21*



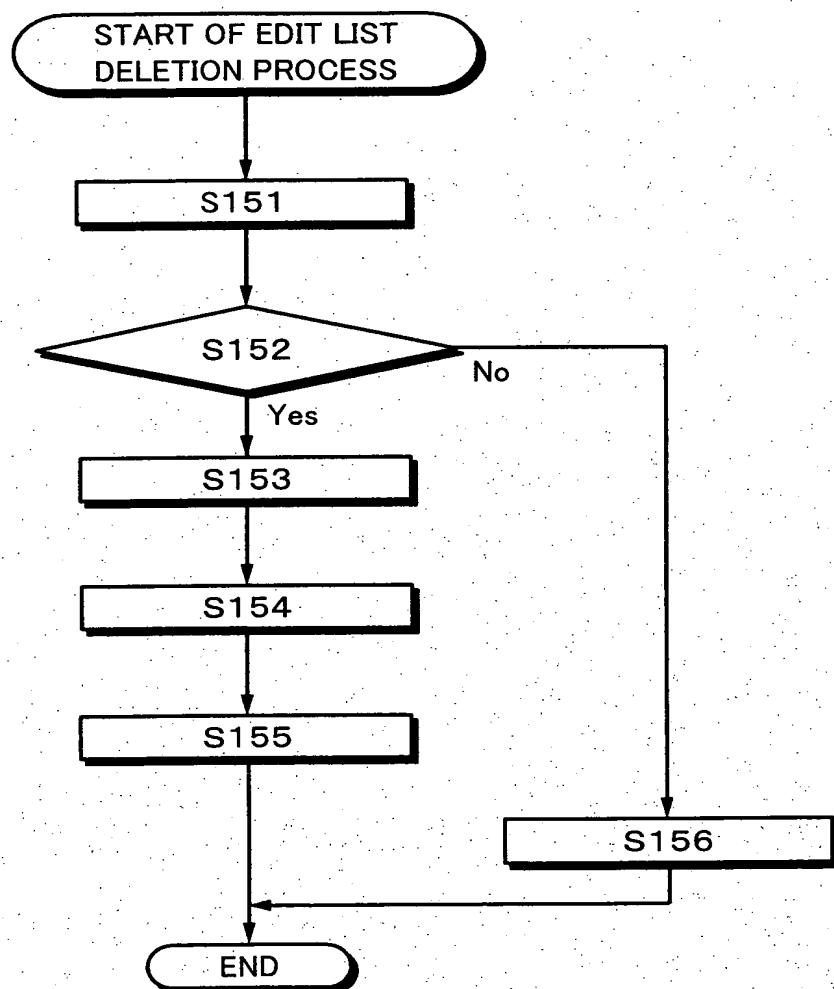
## Fig. 22

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <sml xmlns="urn:schemas-professionalDisc:editList">
3 <head>
4   <metadata type="Meta">
5     <!-- nonrealtime meta -->
6     <NRMeta xmlns="urn:schemas-professionalDisc:nrt">
7       <ref src="E0002M01.XML"/>
8     </NRMeta>
9   </metadata>
10  </head>
11  <body>
12    <par>
13      <!-- Clip1 -->
14      <ref
15        src="urn:smpte:umid:060A2B3401010501010D1213000000EDCBA9876543210FEDCBA9876543210"
16        type="edIDoc" begin="smpte-30=00:00:00" clipBegin="smpte-30=00:00:00" clipEnd="smpte-
17        30=00:10:00:00"/>
18      <!-- Clip2 -->
19      <ref
20        src="urn:smpte:umid:060A2B3401010501010D1213000000EDCBA9876543210FEDCBA9876543210F"
21        type="edIDoc" begin="smpte-30=00:10:00:00" clipBegin="smpte-30=00:02:00:00" clipEnd="smpte-
22        30=00:03:30:00"/>
23    </par>
24  </body>
25 </sml>
```

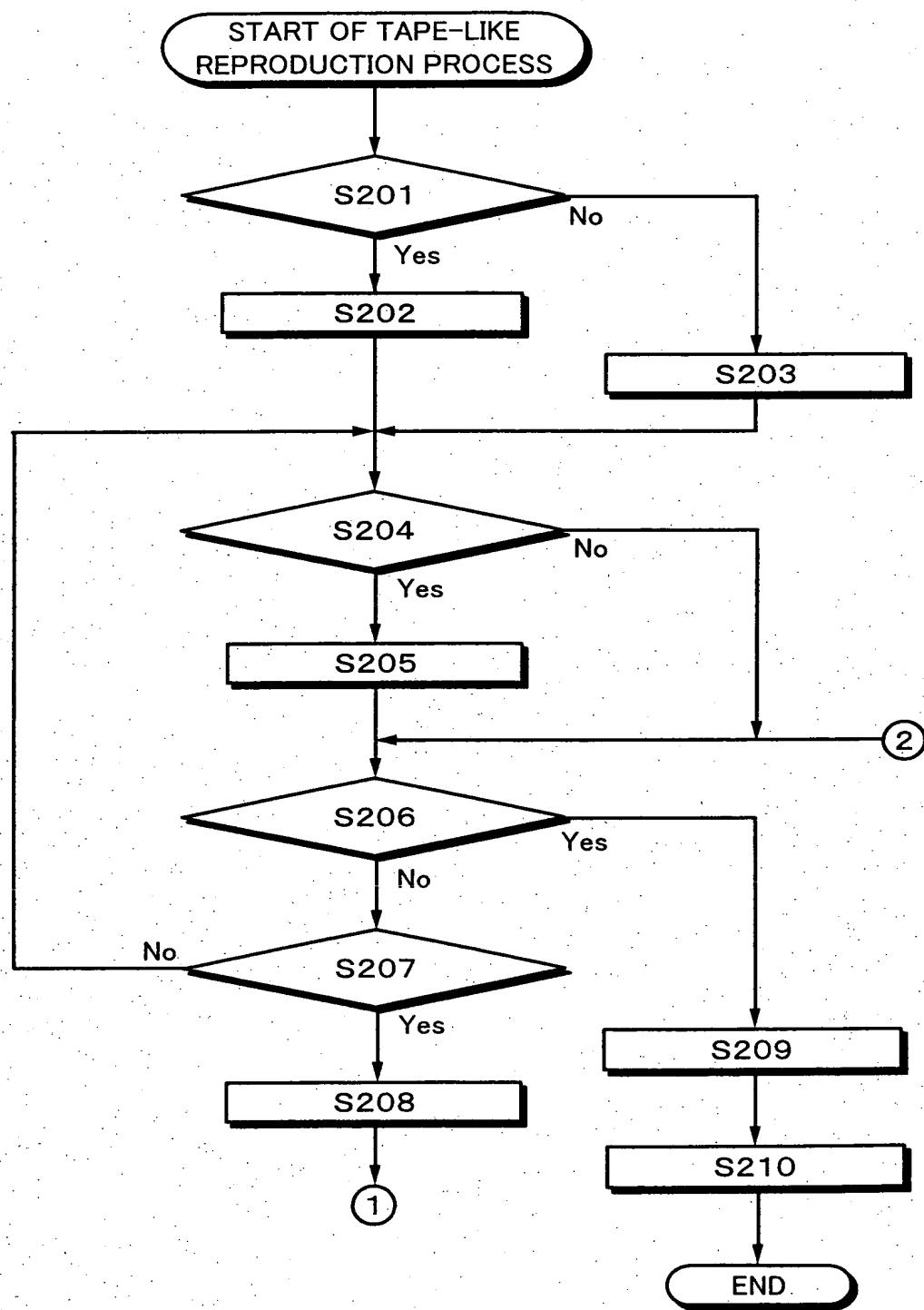
*Fig. 23*



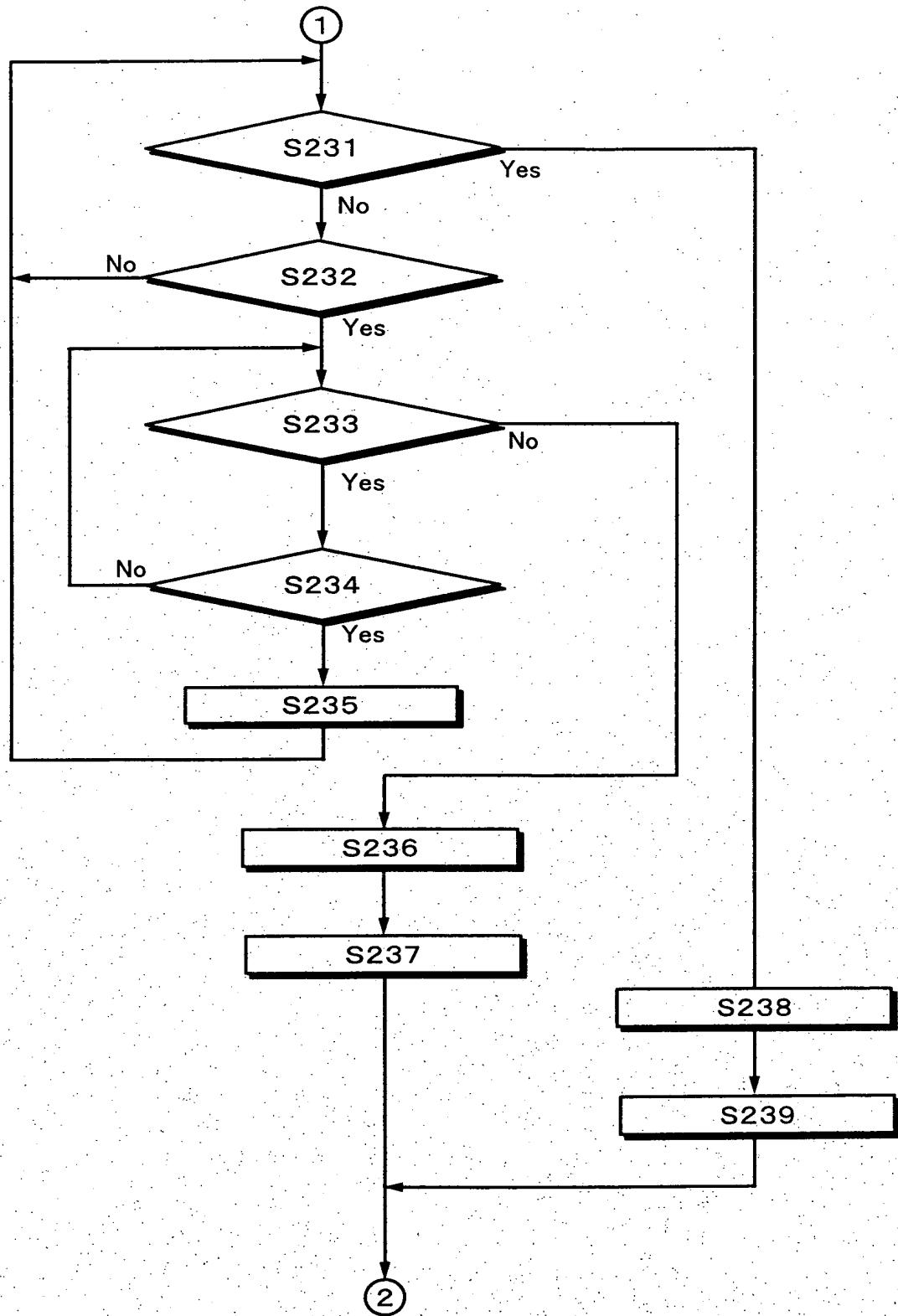
*Fig. 24*



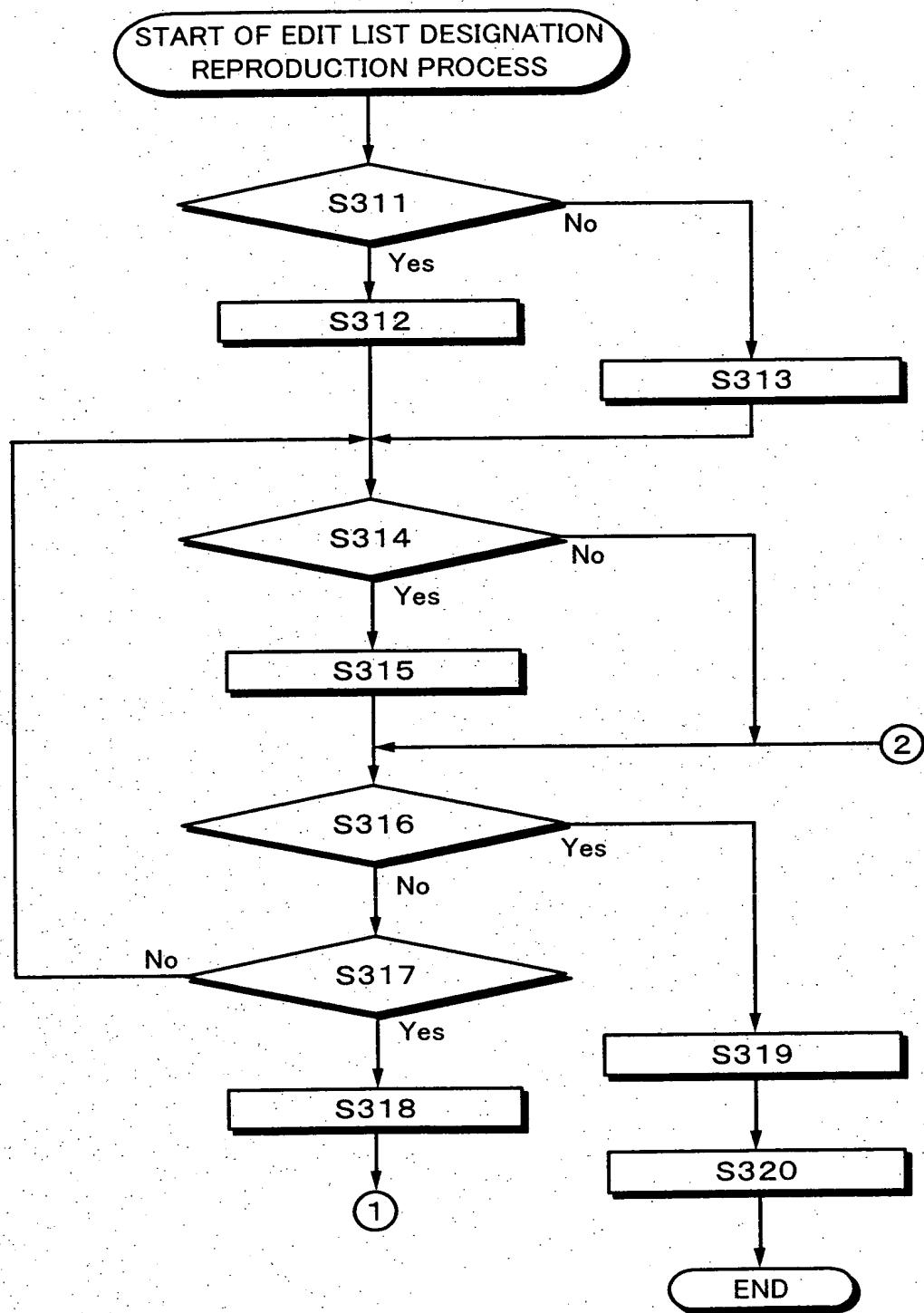
*Fig. 25*



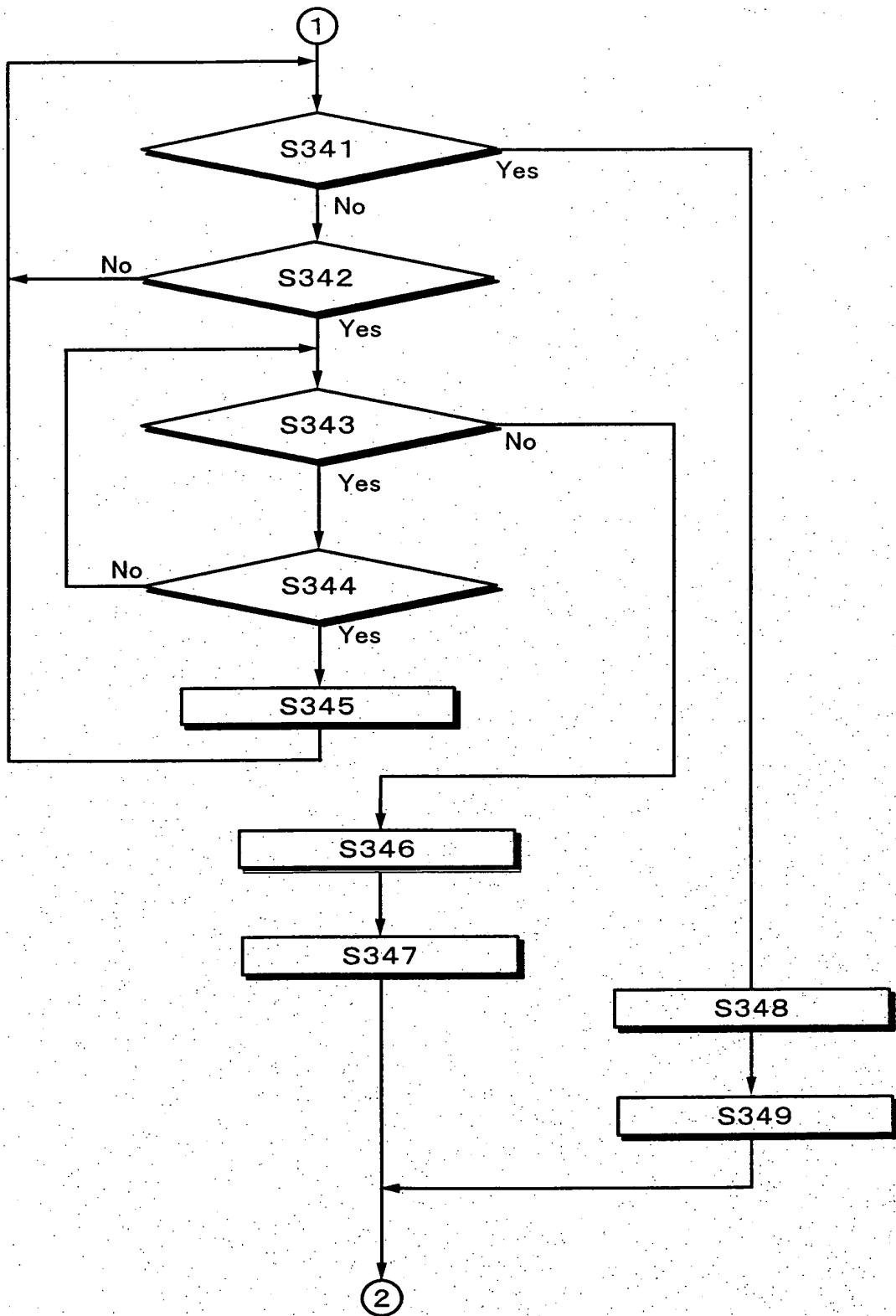
**Fig. 26**



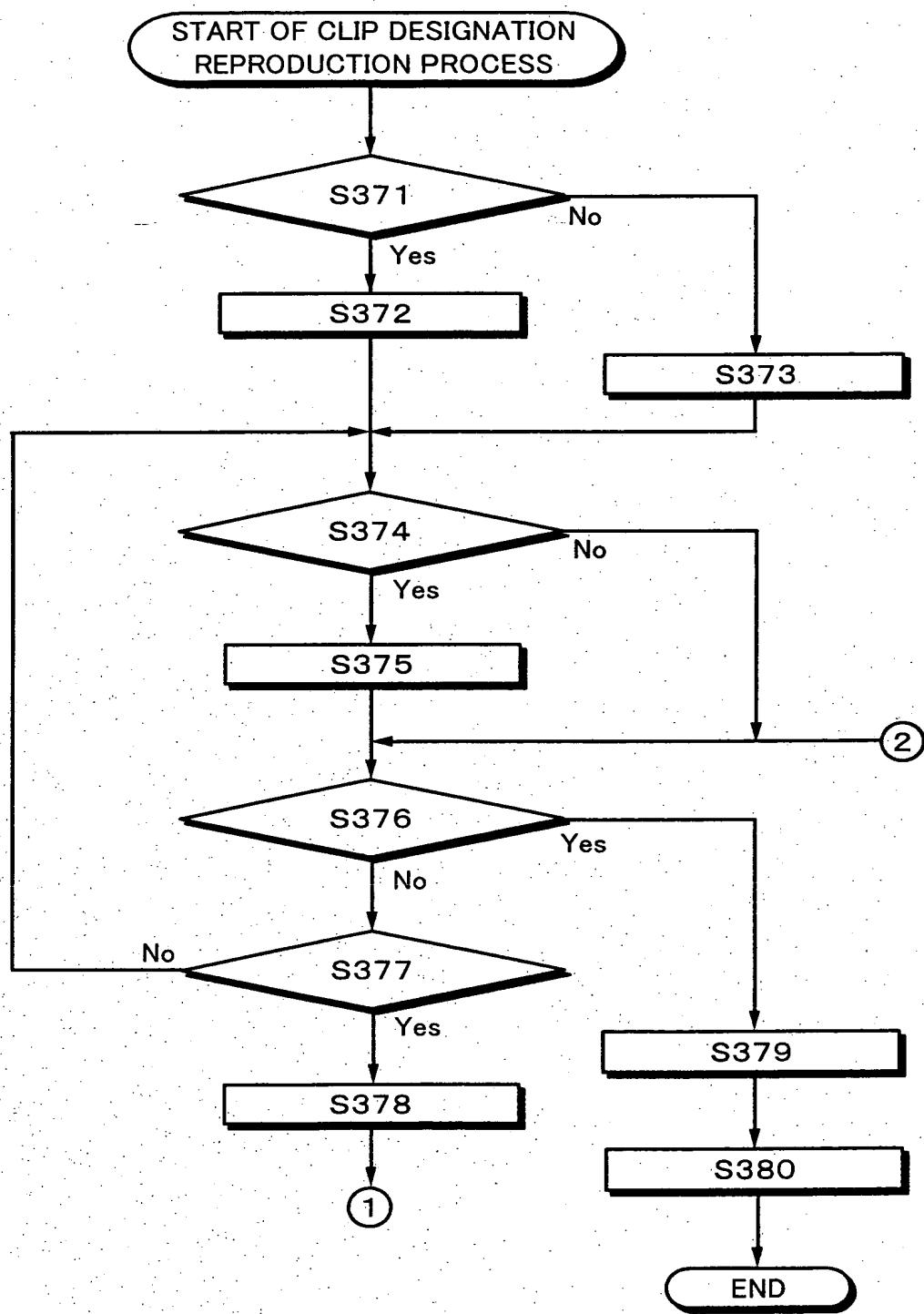
*Fig. 27*



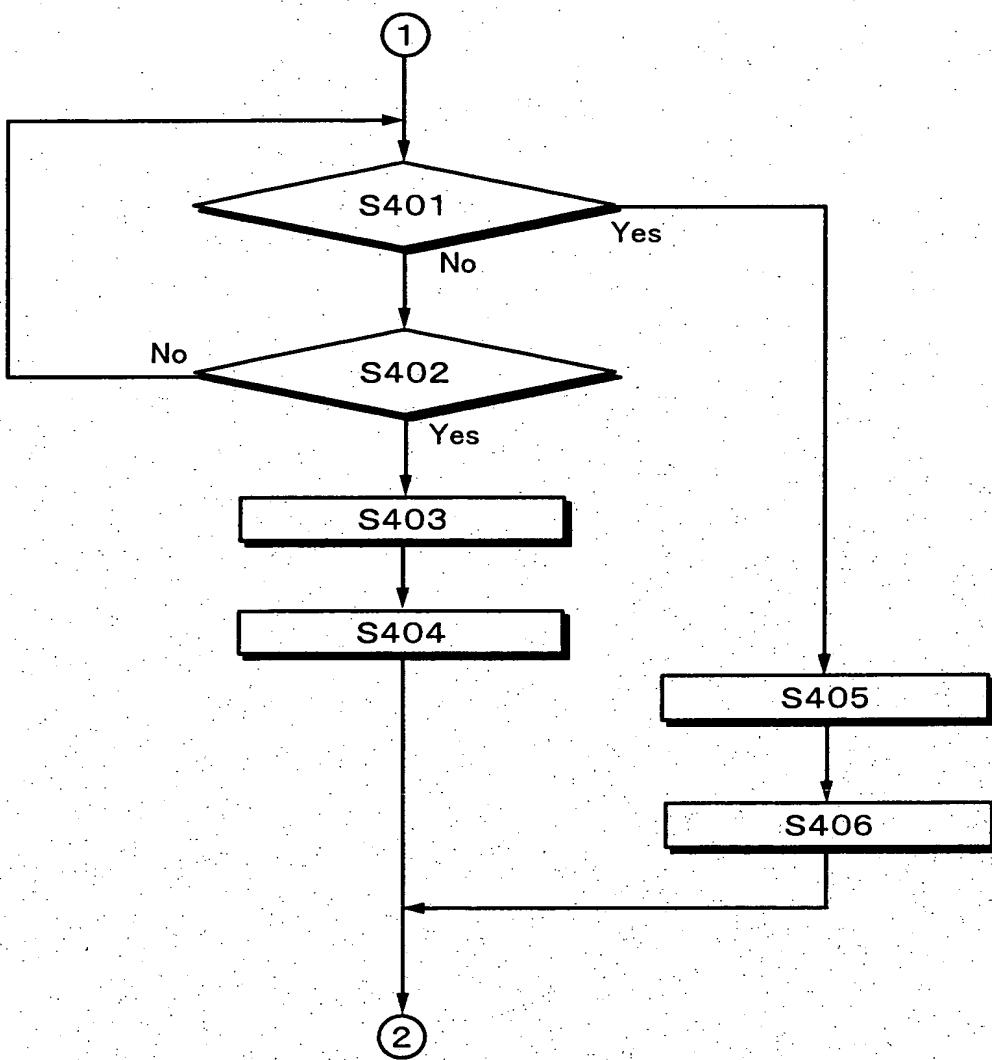
**Fig. 28**



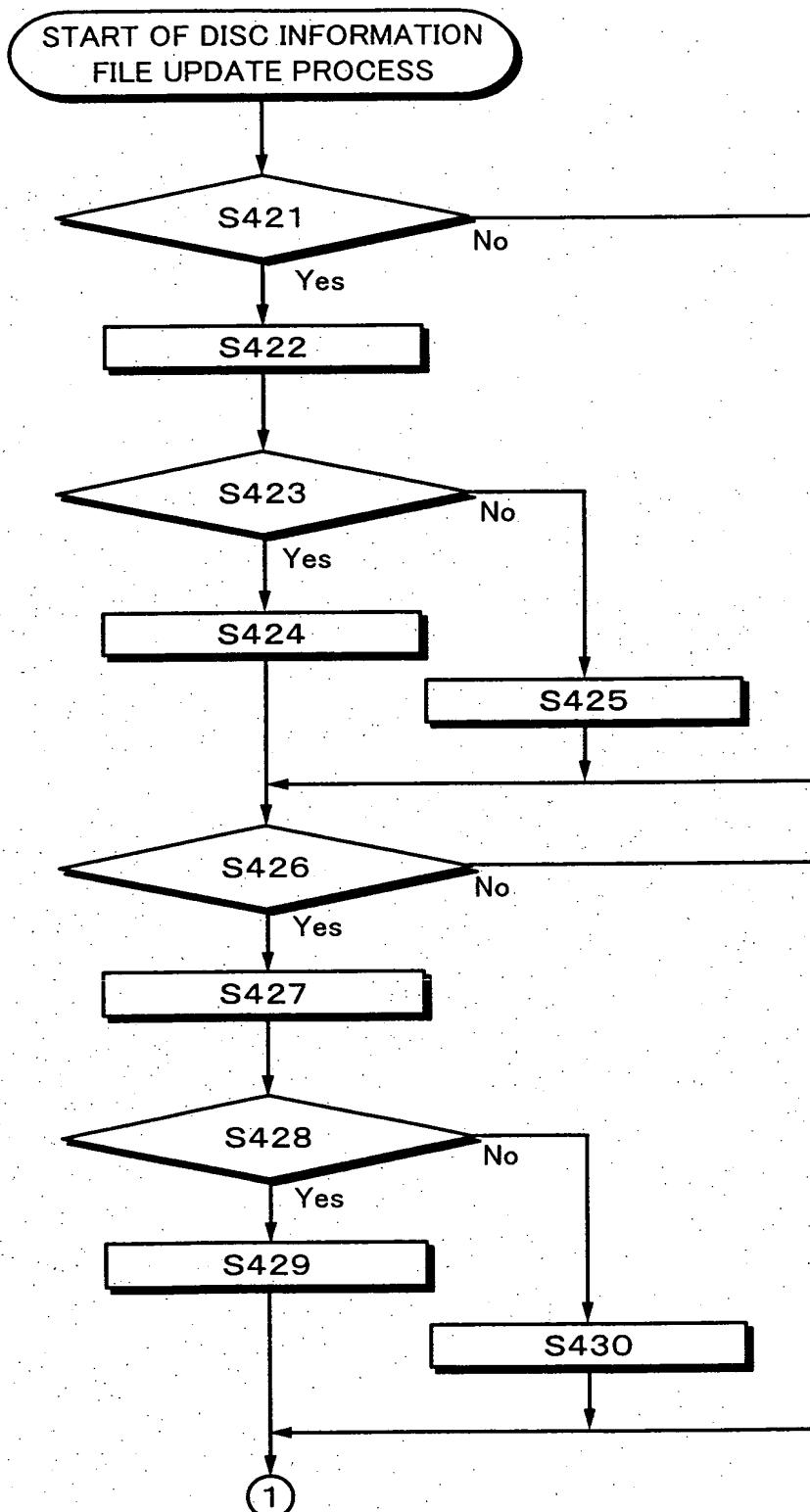
**Fig. 29**



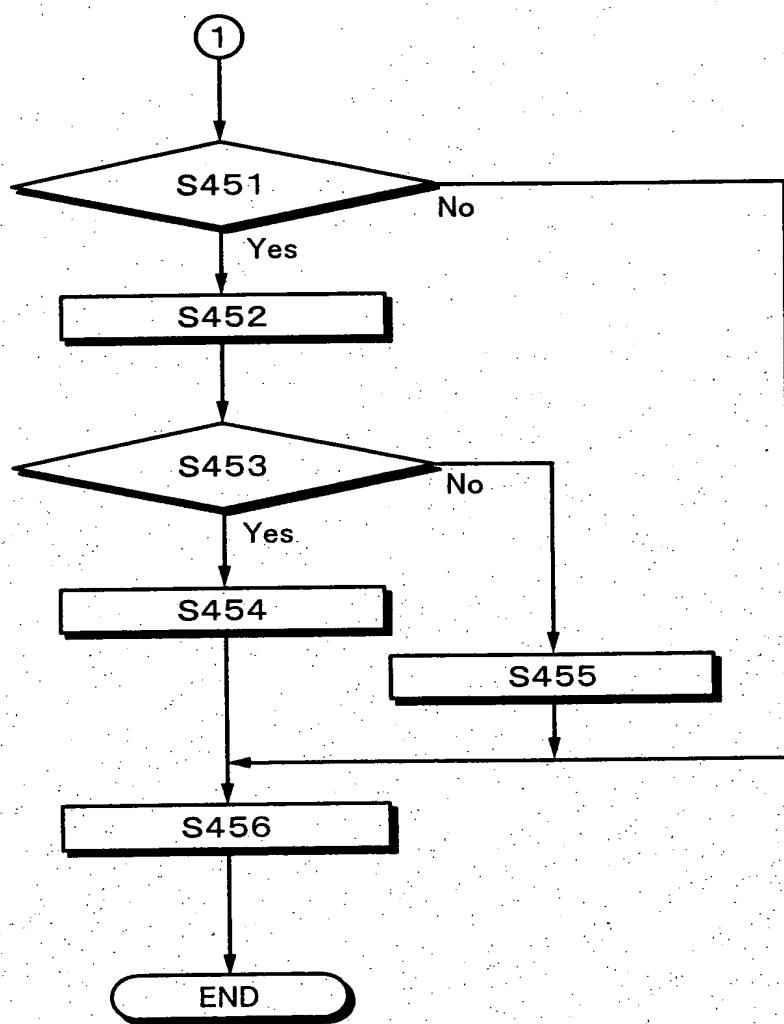
*Fig. 30*



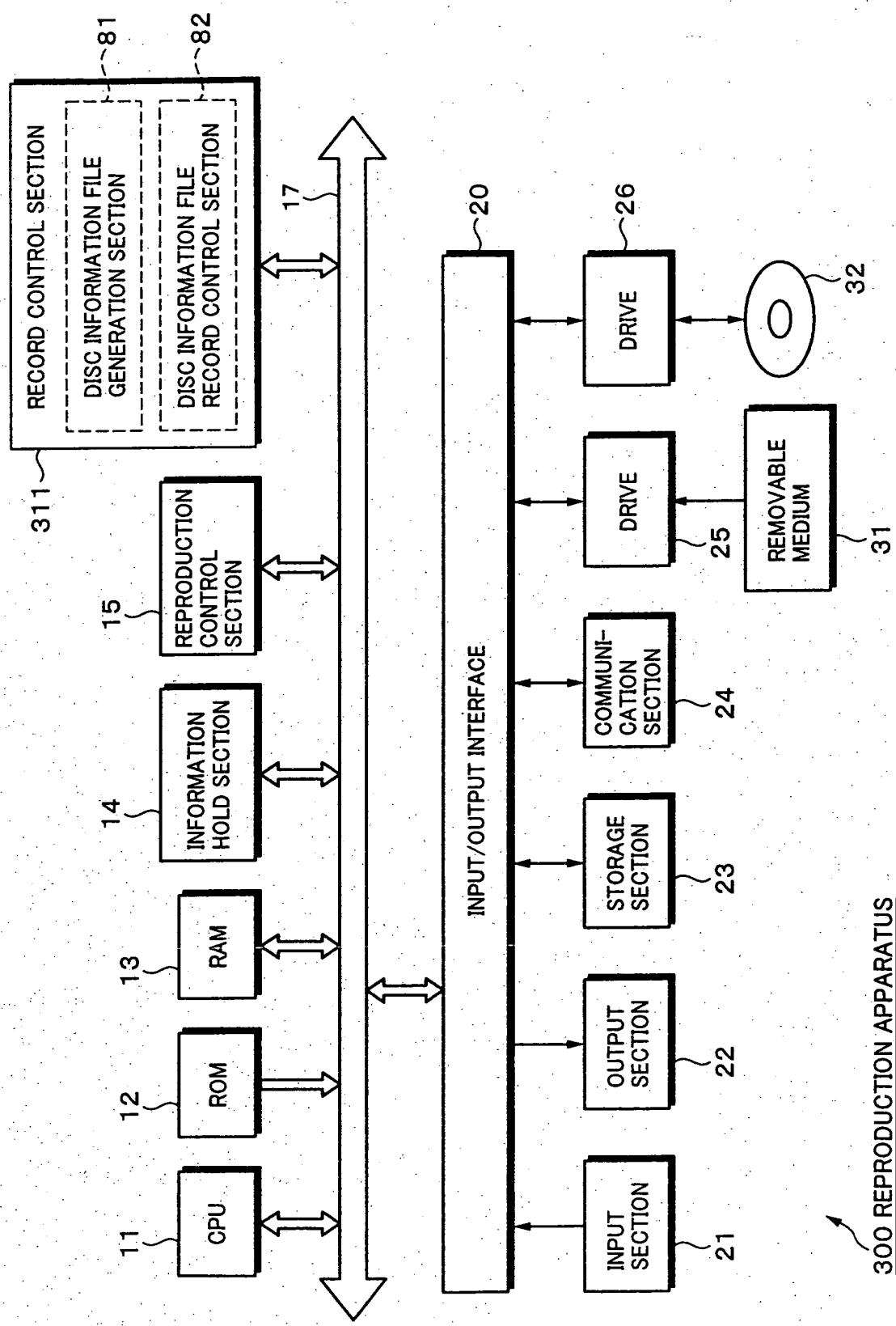
**Fig. 31**



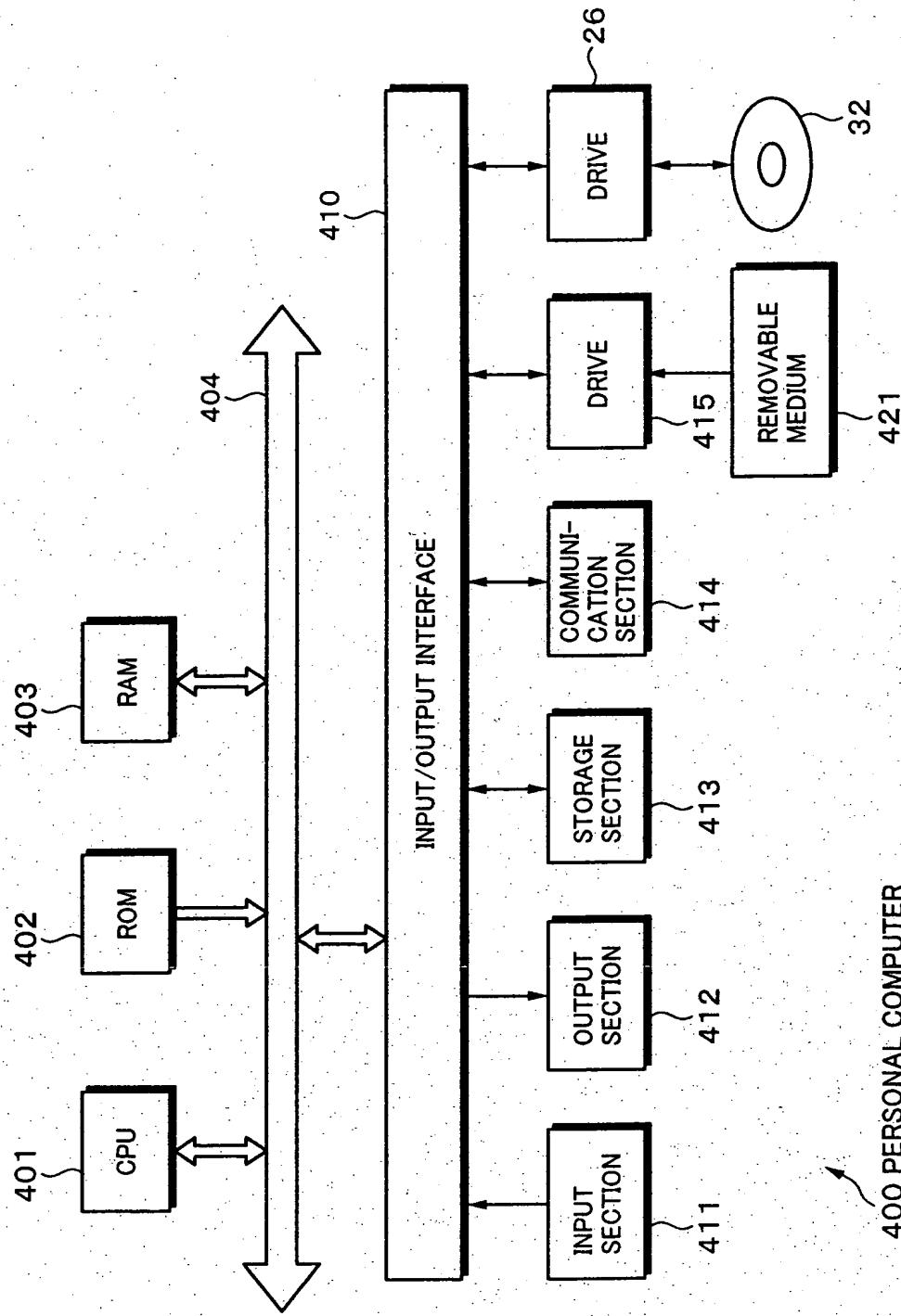
**Fig. 32**



**Fig. 33**



**Fig. 34**



DESCRIPTION OF REFERENCE NUMERALS

- 1 RECORD AND REPRODUCTION APPARATUS
- 14 INFORMATION HOLD SECTION
- 15 REPRODUCTION CONTROL SECTION
- 16 RECORD CONTROL SECTION
- 32 DISC
- 51 INDEX FILE HOLD SECTION
- 52 DISC INFORMATION FILE HOLD SECTION
- 61 INDEX FILE READ SECTION
- 62 DISC INFORMATION FILE READ SECTION
- 63 DISC INFORMATION FILE MANAGEMENT SECTION
- 71 INDEX FILE GENERATION SECTION
- 72 INDEX FILE MANAGEMENT SECTION
- 73 INDEX FILE RECORD CONTROL SECTION
- 81 DISC INFORMATION FILE GENERATION SECTION
- 82 DISC INFORMATION FILE RECORD CONTROL SECTION
- 204 INDEX FILE
- 206 DISC INFORMATION FILE
- 300 REPRODUCTION APPARATUS
- 311 RECORD CONTROL SECTION
- S11 PERFORM UDF FORMAT PROCESS.
- S12 GENERATE PROAV ROOT DIRECTORY.
- S13 GENERATE CLIP ROOT DIRECTORY.
- S14 GENERATE EDIT ROOT DIRECTORY.
- S15 GENERATE INDEX FILE.

S16 GENERATE DISC INFORMATION FILE.  
S31 READ INDEX FILE.  
S32 READ DISC INFORMATION FILE.  
S51 GENERATE CLIP DIRECTORY.  
S52 GENERATE CLIP INFORMATION FILE.  
S53 GENERATE EACH FILE FOR EACH TYPE DATA THAT COMPOSE CLIP.  
S54 ADD CLIP ELEMENT TO CLIP TABLE.  
S55 RECORD INDEX FILE.  
S71 REFERENCE ATTRIBUTE INFORMATION OF DIRECTORY.  
S72 CAN CLIP BE UPDATED ?  
S73 UPDATE EACH FILE OF CLIP.  
S74 UPDATE CLIP INFORMATION FILE.  
S75 UPDATE CLIP TABLE.  
S76 RECORD INDEX FILE.  
S77 PERFORM ERROR PROCESS.  
S91 REFERENCE ATTRIBUTE INFORMATION OF DIRECTORY.  
S92 CAN CLIP BE DELETED ?  
S93 DELETE CLIP DIRECTORY.  
S94 DELETE CLIP ELEMENT FROM CLIP TABLE.  
S95 RECORD INDEX FILE.  
S96 PERFORM ERROR PROCESS.  
S111 GENERATE EDIT DIRECTORY.  
S112 GENERATE EDIT LIST FILE.  
S113 GENERATE EACH FILE THAT COMPOSES EDIT LIST.  
S114 ADD EDIT LIST ELEMENT TO EDIT LIST TABLE.

- S115 RECORD INDEX FILE.
- S131 REFERENCE ATTRIBUTE INFORMATION OF DIRECTORY.
- S132 CAN EDIT LIST BE UPDATED ?
- S133 UPDATE EACH FILE OF EDIT LIST.
- S134 UPDATE EDIT LIST FILE.
- S135 UPDATE EDIT LIST TABLE.
- S136 RECORD INDEX FILE.
- S137 PERFORM ERROR PROCESS.
- S151 REFERENCE ATTRIBUTE INFORMATION OF DIRECTORY.
- S152 CAN EDIT LIST BE DELETED ?
- S153 DELETE EDIT LIST DIRECTORY.
- S154 DELETE EDIT LIST ELEMENT FROM EDIT LIST TABLE.
- S155 RECORD INDEX FILE.
- S156 PERFORM ERROR PROCESS.
- S201 DOES REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF TAPE-LIKE  
REPRODUCTION ?
- S202 READ FRAME DESIGNATED IN REPRODUCTION HISTORY AS REPRODUCTION  
START FRAME.
- S203 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME  
ACCORDING TO CLIP TABLE.
- S204 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?
- S205 READ DESIGNATED FRAME AS REPRODUCTION START FRAME ACCORDING TO  
CLIP TABLE.
- S206 IS PROCESS COMPLETED ?
- S207 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

- S208 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.
- S209 UPDATE DISC INFORMATION FILE.
- S210 EXECUTE COMPLETION PROCESS.
- S231 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?
- S232 HAS CURRENT CLIP BEEN REPRODUCED ?
- S233 IS THERE NEXT CLIP ?
- S234 CAN CLIP BE REPRODUCED ?
- S235 REPRODUCE DESIGNATED CLIP ACCORDING TO CLIP TABLE.
- S236 STOP REPRODUCTION.
- S237 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.
- S238 STOP REPRODUCTION.
- S239 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.
- S311 DOES REPRODUCTION HISTORY CONTAIN REPRODUCTION HISTORY RECORD OF EDIT LIST ?
- S312 READ FRAME DESIGNATED IN REPRODUCTION HISTORY RECORD AS REPRODUCTION START FRAME.
- S313 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO EDIT LIST.
- S314 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?
- S315 READ DESIGNATED FRAME AS REPRODUCTION START FRAME ACCORDING TO EDIT LIST.
- S316 IS PROCESS COMPLETED ?
- S317 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

- S318 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO  
EDIT LIST.
- S319 UPDATE DISC INFORMATION FILE.
- S320 EXECUTE COMPLETION PROCESS.
- S341 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?
- S342 HAS CURRENT CLIP BEEN REPRODUCED ?
- S343 IS THERE NEXT CLIP ?
- S344 CAN CLIP BE REPRODUCED ?
- S345 REPRODUCE DESIGNATED CLIP ACCORDING TO EDIT LIST.
- S346 STOP REPRODUCTION.
- S347 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME  
ACCORDING TO EDIT LIST.
- S348 STOP REPRODUCTION.
- S349 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.
- S371 DOES REPRODUCTION HISTORY CONTAIN REPRODUCTION HISTORY RECORD  
OF CLIP TO BE REPRODUCED ?
- S372 READ FRAME DESIGNATED IN REPRODUCTION HISTORY AS REPRODUCTION  
START FRAME.
- S373 READ TOP FRAME AS REPRODUCTION START FRAME ACCORDING TO CLIP  
INFORMATION FILE.
- S374 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?
- S375 READ DESIGNATED FRAME AS REPRODUCTION START FRAME ACCORDING TO  
CLIP INFORMATION FILE.
- S376 IS PROCESS COMPLETED ?
- S377 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

- S378 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO CLIP INFORMATION FILE.
- S379 UPDATE DISC INFORMATION FILE.
- S380 EXECUTE COMPLETION PROCESS.
- S401 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?
- S402 HAS CLIP BEEN REPRODUCED ?
- S403 STOP REPRODUCTION.
- S404 READ TOP FRAME AS REPRODUCTION START FRAME.
- S405 STOP REPRODUCTION.
- S406 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.
- S421 TAKE-LIKE REPRODUCTION ?
- S422 GENERATE HISTORY RECORD OF TAKE-LIKE REPRODUCTION.
- S423 DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF TAKE-LIKE REPRODUCTION ?
- S424 DELETE OLD HISTORY RECORD OF TAKE-LIKE REPRODUCTION AND REGISTER GENERATED HISTORY RECORD OF TAKE-LIKE REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.
- S425 DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND REGISTER GENERATED HISTORY RECORD OF TAKE-LIKE REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.
- S426 EDIT LIST DESIGNATION REPRODUCTION ?
- S427 GENERATE HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION.
- S428 DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION FOR SAME EDIT LIST.
- S429 DELETE OLD HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION

AND REGISTER GENERATED HISTORY RECORD OF EDIT LIST DESIGNATION  
REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S430      DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND  
REGISTER GENERATED HISTORY RECORD OF EDIT LIST REPRODUCTION AT  
POSITION OF NEWEST HISTORY RECORD.

S451      CLIP DESIGNATION REPRODUCTION ?

S452      GENERATE HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION.

S453      DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF  
CLIP DESIGNATION REPRODUCTION FOR SAME CLIP ?

S454      DELETE OLD HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION AND  
REGISTER GENERATED HISTORY RECORD OF CLIP DESIGNATION  
REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S455      DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND  
REGISTER GENERATED HISTORY RECORD OF CLIP DESIGNATION  
REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S456      RECORD DISC INFORMATION FILE.